

REMARKS

I. Status of Claims

Claims 1, 2, 4-10, 12-27, 29-30, 32, and 36-40 are pending in the present application and stand finally rejected under 35 U.S.C. § 103(a) as unpatentable in view of U.S. Patent No. 6,336,099 (*Barnett et al.*). Claims 1, 30, and 36-39 are in independent form. The full text of the rejected claims is presented herein on pages 2-14. Claims 3, 11, 28, 31, and 33-35 were previously canceled and will not be addressed further herein.

II. Status of Amendments

Claims 1, 4, 5, 7, 30, and 36-39 have been amended hereby purely for clarification purposes. The claim amendments do not narrow the scope of the claims. Additionally, the claim amendments have not been made for reasons pertaining to patentability of the claims.

III. Summary of Claimed Subject Matter

The claimed subject matter is generally directed to methods, apparatuses, systems, and computer-readable storage media for motivating a consumer to quickly decide to electronically purchase a product and/or service, *i.e.*, to make an impulse purchase, upon viewing an offer for sale of the product and/or service on a Web site.

An example of a conventional impulse purchase is a purchase made at a checkout counter as a consumer is getting ready to pay for “planned” or non-impulse purchases. In this example, the consumer may be enticed by interesting headlines on magazines or attractive

displays of assorted candies to make an impulsive or unplanned purchase of an interesting magazine and/or a desired candy.

The claims of the present application relate to the realm of electronic shopping, where a consumer views items (*i.e.*, products and/or services) offered for sale on a Web site, for example, and where the consumer makes purchases electronically via the Web site. Typically, consumers do not make impulse purchases when shopping via the Internet, because consumers have time to browse various Web sites as well as so-called “bricks-and-mortar” or conventional retail establishments to look for the best deal. That is, a consumer can go from Web site to Web site and store to store to shop for a desired item, and ultimately return to the Web site or the store that offers the best deal (*e.g.*, lowest price) to purchase the desired item. In the claims of the present invention, as motivation for the consumer to act impulsively, *i.e.*, to make an impulse purchase while visiting a Web site, an incentive for purchasing a product and/or service via the Web site is displayed while the consumer is visiting the Web site.

One of the notable features of the claims is that the incentive changes with time while the consumer is visiting the Web site. For example, the value of the incentive may decrease to successively lower values with time. The purpose of this visibly decreasing value of the incentive is to entice or motivate the consumer to purchase the product and/or service via the Web site before the value decreases further with time. Another notable feature of the claims is that, when the consumer electronically purchases the product and/or service, the value of the incentive at the time of purchase and the value of the incentive at an initial time at which the incentive was first displayed to the consumer are registered. This information is used to verify the value of the incentive to be associated with the purchase, thus preventing the consumer from fraudulently obtaining a higher value than the consumer is entitled to.

IV. Grounds of Rejections at Issue

At issue is whether Claims 1, 2, 4-10, 12-27, 29-30, 32, and 36-40 are unpatentable under 35 U.S.C. § 103 as obvious in view of *Barnett et al.*

V. Cited Prior Art

Barnett et al. teaches a system for electronically distributing coupons to a user's personal computer via an online service provider. As shown in Figs. 1, 6, and 9 of *Barnett et al.*, the system includes a central repository of electronically stored coupon data. This central repository is shown as an online service provider 2, which has a database 40 that stores various packages of coupon data provided by a coupon distributor 16 or a coupon issuer 14. *See* column 6, lines 29-34 and 52-58.

Online Service Provider 2

The online service provider 2 also stores a demographic data file 42 of user-specific data, which includes data on selected coupons, deleted coupons, and printed coupons, as well as data on user demographics. The user-specific data is used to compile subsequent coupon packages targeted for specific user categories. *See* column 6, lines 58-65.

The online service provider 2 is accessible by a user's remote personal computer 6, which the user can use to request coupons and to provide user data, and which the user can use to receive requested coupon data. *See* column 6, line 66, to column 7, line 5. The coupon data is used to print coupons 18, which "are used in the *normal fashion* by a consumer when shopping at a desired retail store 10." Column 7, lines 12-13; emphasis added. That is, *Barnett et al.* teaches that the printed coupons 18 are used in the same manner as conventional paper coupons.

However, each printed coupon 18 identifies not only the product and the discount amount for the product, the printed coupon also includes a bar code 90 containing user-specific data so that, when the coupon is redeemed, specific information regarding the user and the user's purchases may be tracked. *See* column 7, lines 18-35. The user-specific data is collated by the coupon distributor 16 for marketing analyses. *See* column 7, lines 36-55.

More specifically, as summarized in Fig. 6 of *Barnett et al.*, there are four functional features of the online service provider 2: the coupon packages file 40, the demographic data file 42, the online communications server 44, and the help file 46. Each of these functional features communicates with external units via a data communications interface 48. The coupon packages file 40 holds electronic coupon data and advertisement materials provided by coupon issuers. Coupon packages for individual users are selected from the coupon packages file 40 based on demographic data and historic buying profiles of the individual users stored in the demographic data file 42. *See* column 8, lines 6-21. The demographic data file 42 holds data collected from users responding to inquiries made when the users request coupon data to be downloaded. *See* column 8, lines 34-38. The help file 46 stores standard help information and other useful information accessible by users. *See* column 8, lines 49-51. The online communications server 44 provides a bulletin board for users to post messages. *See* column 8, lines 39-48.

User's Remote Personal Computer 6

Fig. 2 depicts a block diagram of the remote personal computer 6 of Fig. 1, which a user uses to communicate with the online service provider 2. The personal computer 6 includes a data communications interface 20, a coupon database file 30, and a coupon management routine file 32.

After the user joins an electronic coupon service offered by the coupon distributor 16, the user can order or request a package of electronic coupons from the online service provider 2. The requested package of coupon data is downloaded to the user's personal computer 6 and stored as a coupon data file 30a in the coupon database file 30. *See* column 8, lines 23-33. *Barnett et al.* specifically teaches that the user's personal computer 6 operates "in accordance with the present invention via a coupon database file 30 and an offline coupon data management routine file 32 loaded onto a fixed memory such as a hard disk drive." *See* column 8, lines 52-64.

As shown in Fig. 2, the coupon database file 30 is segmented into a number of sections or files other than the downloaded coupon data file 30a, including a selected coupon data file 30b, a sorted coupon data file 30c, a "fixed coupon parameters and user-specific data" file 30d, and a store-specific data file 30e. The selected coupon data file 30b contains a subset of the downloaded coupon data file 30a, and represents specific coupons that are selected or "clipped" by the user. The sorted coupon data file 30c contains the selected coupons sorted in accordance with a set of criteria, such as product type, for example. The "fixed coupon parameters and user-specific data" file 30d contains certain fixed or unvarying data used in printing coupons. The store-specific data file 30e contains information on the product arrangement in a particular retail store. *See* column 9, lines 1-16.

The coupon management routines file 32 of the user's personal computer 6 contains a number of routines: a request coupon download routine 32a, a view coupons routine 32b, a coupon selection routine 32bb, a coupon sortation routine 32c, a coupon upload routine 32cc, a printable coupon data generation routine 32d, a coupon deletion routine 32e, a coupon variation routine 32f, and a shopping list generation routine 32g, as shown in Fig. 2.

Request Coupon Download Routine 32a

The request coupon download routine 32a is executed when the user requests the download of a coupon package. This routine communicates with the online service provider 2 to obtain the requested coupon package. The online service provider 2 queries the user for demographic information to be used in marketing analyses and subsequent coupon package generation. The user's responses to the queries are stored in a demographic data file 42 of the online service provider 2, as discussed above. The requested coupon package then is transmitted to the user's personal computer 6, which stores the downloaded coupon data file 30a in the coupon database file 30. *See* column 9, lines 34-53.

View Coupons Routine 32b

The view coupons routine 32b enables the user to view downloaded coupon packages so that they can be organized and/or selected for further processing. Selected coupon packages are stored in the selected coupon data file 30b. *See* column 9, lines 55-67.

Coupon Sortation Routine 32c

The coupon sortation routine 32c organizes or sorts coupon packages according to particular categories, and the sorted coupons are stored in the sorted coupon data file 30c. *See* column 10, lines 1-16.

Shopping List Generation Routine 32g

The shopping list generation routine 32g enables the user to generate a shopping list from a menu, and items appearing on the list are compared with coupon data stored in the coupon database file 30. The user is notified when an item on the list has a corresponding coupon stored in the coupon database file 30, and the user can print the coupon along with the

list. Alternatively, a shopping list can be created by selecting certain coupons for printing; the list is printed along with the selected coupons. *See* column 10, lines 7-30.

Coupon Upload Routine 32cc

The coupon upload routine 32cc is automatically called when the user requests a coupon package to be downloaded from the online service provider 2. The routine 32cc functions to keep a record of each coupon selected by the user and each coupon printed by the user, and the record is sent to the demographic data file 42 in the online service provider 2. *See* column 10, lines 48-57.

Printable Coupon Data Generation Routine 32d

When the user selects a print command to print coupons, the printable coupon data generation routine 32d obtains data from the fixed coupon parameters and user-specific data file 30d and the “variable coupon data associated with the particular coupon selected for printing.” *See* column 10, lines 58-64. The fixed coupon parameters and user-specific data are shown in Fig. 3 and include data on the graphics to be used in printing the coupon, redemption instructions, the coupon expiration date, the UPC code, the redemption address, the company and product information, and a user-identification bar code number. The user-identification bar code number is a unique number assigned to that user and appears as a bar code 90 on each coupon 18 printed for the user. *See* Figs. 1 and 5; and column 10, line 65, to column 11, line 7 and lines 24-29.

More specifically, as shown in Fig. 5, a printed coupon 70 includes the following fixed components taken from the fixed coupon parameters and user-specific data file 30d: border graphics 72, redemption instructions 88, and a user-identification bar code 90. *See* column 12, lines 17-28, and Fig. 3. According to *Barnett et al.*, the user-identification bar code

90 functions as a fraud prevention tool, because a coupon 18 with a particular user's user-identification bar code 90 may only be printed once and redeemed once. Therefore, even if photocopies are made of the printed coupon, records of redeemed coupons are stored in a database 12 of a coupon redemption center 13, thus enabling a coupon issuer to disallow another redemption of a previously redeemed coupon. *See* Fig. 1; and column 7, lines 36-45, and column 11, lines 11-24.

The printed coupon 70 also includes the following variable components, which vary or change depending on the coupon that is selected for printed by the user: expiration date 78, redemption amount 74, description of the offer 76, company and/or product information 80, a UPC number and barcode 82 and 84, and a redemption address 86. *See* column 12, lines 22-28, and Fig. 3. Importantly, the redemption amount is not an incentive displayed on a Web site and whose value changes with time while a consumer is visiting the Web site, as claimed in the claims of the present application. The "variability" of the redemption amount 74, as contemplated by *Barnett et al.*, is discussed in detail below in connection with the coupon variation routine 32f.

Instead of printing a coupon, *Barnett et al.* teaches that the coupon may be redeemed electronically by sending coupon data generated by the printable coupon data generation routine 32d, *i.e.*, the coupon data that would have appeared on a printed coupon, to the online service provider 2 or directly to a retail store where the user will be shopping. The coupon data is held in a buffer at the retail store until the user purchases a product matching that of the coupon data. *See* column 11, lines 30-44.

Coupon Deletion Routine 32e

As discussed above, to prevent fraud, any particular coupon may be printed only once. To this end, the coupon deletion routine 32e is called when a coupon is printed and subsequently deletes the coupon from the coupon database file 30 or renders it unprintable. *See* column 11, lines 45-52. The coupon deletion routine 30 also periodically checks the expiration dates of the coupons, and automatically deletes expired coupons from the coupon database file 30. *See* column 11, lines 52-55 and 62-65.

Barnett et al. teaches the use of a time-sensitive deletion feature, in which

certain coupon data may be automatically deleted from the user's computer after, e.g., **one month**, notwithstanding that the coupon, if printed, might have an expiration date in **six months**. This feature is included to prompt users who know of the time-sensitive autodeletion to promptly print (and use) coupons rather than risk having them deleted from their database.

Column 12, lines 2-8, emphasis added. It is noted, however, that the time-sensitive deletion feature of *Barnett et al.* does not involve or suggest displaying an incentive on a Web site, such that the value of the displayed incentive changes while a consumer is visiting the Web site, as claimed in the claims of the present application. It is further noted that the time scale contemplated by *Barnett et al.* is on the order of months, which is not the typical time scale used to measure a consumer's visit to a Web site, and thus *Barnett et al.* clearly is not concerned with motivating a consumer to make an impulse purchase.

Coupon Variation Routine 32f

Barnett et al. teaches that the coupon variation routine 32f enables the redemption value of a coupon, which already has been downloaded to the user's personal computer 6, may be varied. However, a careful reading of *Barnett et al.* reveals that this routine 32f merely allows the online service provider 2 to "update redemption amounts for coupons whose issuers have decided to change the discount amount." *See* column 12, lines 9-16. That is, this routine 32f is a

mechanism for a coupon issuer to reset the redemption amount to a new, fixed value for users who have downloaded the coupon. As such, the coupon variation routine 32f as taught by *Barnett et al.* does not involve or suggest displaying a purchase incentive on a Web site, such that the value of the displayed incentive changes while a consumer is visiting the Web site, as claimed in the claims of the present application. Further, due to the fixed nature of the reset redemption amount, the scheme taught by *Barnett et al.* does not encourage a consumer to make an impulse purchase while visiting a Web site, because typical visits to Web sites are measured in minutes whereas with the scheme of *Barnett et al.* the time scale for a coupon issuer to reset a redemption amount of a coupon likely is measured in weeks or even months. Thus, based at least on the time scale contemplated by *Barnett et al.*, the consumer would have no incentive to make an impulse purchase while visiting a Web site.

Example of Application of *Barnett et al.* Scheme

According to *Barnett et al.*, the coupon data packages provided to the user are generated by the coupon distributor 16 based on data collected by the online service provider 2 on the types of coupons previously printed by the user and demographic information stored in a database 11 of the coupon distributor 16. A marketing and targeting analysis portion 17 of the coupon distributor 16 analyzes the stored information and determines coupon packages to be generated for the user based on marketing and targeting criteria. *Barnett et al.* provides an example in which users who select, print, and redeem coupons for Brand X dog food will, based on the marketing and targeting criteria, get coupons for Brand Y dog food or will get only “low value coupons” for Brand X dog food, because the users already use coupons to purchase Brand X. See column 12, lines 29-54. That is, *Barnett et al.* teaches that users may be given different coupons based on the users’ history of purchases, such that a user of a competitor’s brand is

given a coupon with a higher fixed redemption value than a coupon given to a loyal user of a brand being promoted. *See* column 13, lines 30-42.

It is noted, however, that the coupons in *Barnett et al.*'s example "vary" in the sense that different coupons are given to different users. It also is noted that the different coupons are worth their full value unless the coupons are expired, at which point the coupons are worthless. The binary (all or nothing) nature of these coupons is the same as for traditional paper coupons, which are worth their full face value unless their expiration dates have passed. *Barnett et al.* does not teach or suggest that any individual coupon would have a value that varies over a period of time. It is not possible, with the type of coupon contemplated by *Barnett et al.*, to have the coupon be displayed on a Web site such that the coupon changes in value to other values; with the type of coupon contemplated by *Barnett et al.*, once the coupon has been printed it retains its face value (*i.e.*, the printed value) until it expires. More specifically, *Barnett et al.* does not teach or suggest displaying a purchase incentive on a Web site, such that the value of the displayed incentive changes while a consumer is visiting the Web site, as claimed in the claims of the present application.

User Alert

Fig. 7 shows an embodiment in which the user is provided with a visual or auditory stimulus to alert the user to access the online service provider 2 to obtain coupon data related to an advertised product. According to *Barnett et al.*, the availability of the coupon may be time sensitive, "which would provide further incentive to the user to use the system in a prompt and efficient manner." *See* column 13, lines 16-29. It is noted, however, that the alert is merely to prompt the user to make a request for the available the coupon, but the user is provided with no incentive to make an impulse purchase.

VI. Argument

A. 35 U.S.C. § 103(a) Legal Analysis

In its decision in *KSR Int'l Co. v. Teleflex Inc.*, 27 S.Ct. 1727, 82 USPQ2d 1385 (2007), the Supreme Court reaffirmed the three-part framework for determining obviousness under § 103 set out in *Graham v. John Deere Co.*, 383 U.S. 1 (1966). In *Graham*, it was held that the analysis for determining obviousness is objective:

Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined.

Graham 382 U.S. at 17-18.

Referring to the framework set out in *Graham*, the Supreme Court in *KSR* further stated that, “while the sequence of these questions might be reordered in any particular case, the factors continue to define the inquiry that controls.” *KSR*, 27 S.Ct. at 1735.

On October 10, 2007, the USPTO published “Examination Guidelines for Determining Obviousness Under 35 U.S.C. 103 in view of the Supreme Court Decision in *KSR International Co. v. Teleflex Inc*” (“KSR Guidelines”). In addition to acknowledging the Supreme Court’s reaffirmation of the *Graham* factors [Exhibit 1, p. 57526 at column 3], the KSR Guidelines specifically state that the “Court in *KSR* noted that the analysis supporting a rejection under 35 U.S.C. § 103 (a) should be made explicit” [Exhibit 1, p. 57528 at column 3]. The KSR Guidelines provide seven different rationales that may be used to support a finding of obviousness [Exhibit 1, p. 57529 at column 1]. Each of the seven rationales are discussed below.

Rationale 1: Combining Prior Art Elements According To Known Methods To Yield

Predictable Results

According to the KSR Guidelines, to reject a claim based on this rationale, the three-part *Graham* analysis needs to be performed and, from that analysis, the patent examiner must “articulate” the following:

- (1) a finding that the prior art included each element claimed, although not necessarily in a single prior art reference, with the only difference between the claimed invention and the prior art being the lack of actual combination of the elements in a single prior art reference;
- (2) a finding that one of ordinary skill in the art could have combined the elements as claimed by known methods, and that in combination, each element merely would have performed the same function as it did separately;
- (3) a finding that one of ordinary skill in the art would have recognized that the results of the combination were predictable; and
- (4) whatever additional findings based on the *Graham* factual inquiries may be necessary, in view of the facts of the case under consideration, to explain a conclusion of obviousness.

[Exhibit 1, p. 57529 at columns 1-2.]

Rationale 2: Simple Substitution of One Known Element for Another to Obtain

Predictable Results

According to the KSR Guidelines, to reject a claim based on this rationale, the three-part *Graham* analysis needs to be performed and, from that analysis, the patent examiner must “articulate” the following:

- (1) a finding that the prior art contained a device (method, product, etc.) which differed from the claimed device by the substitution of some components (step, element, etc.) with other components;

- (2) a finding that the substituted components and their functions were known in the art;
- (3) a finding that one of ordinary skill in the art could have substituted one known element for another, and the results of the substitution would have been predictable; and
- (4) whatever additional findings based on the *Graham* factual inquiries may be necessary, in view of the facts of the case under consideration, to explain a conclusion of obviousness.

[Exhibit 1, p. 57530 at column 1.]

Rationale 3: Use of Known Technique to Improve Similar Devices (Methods, or Products) in the Same Way

According to the KSR Guidelines, to reject a claim based on this rationale, the three-part *Graham* analysis needs to be performed and, from that analysis, the patent examiner must “articulate” the following:

- (1) a finding that the prior art contained a “base” device (method, or product) upon which the claimed invention can be seen as an “improvement;”
- (2) a finding that the prior art contained a “comparable” device (method, or product that is not the same as the base device) that was improved in the same way as the claimed invention;
- (3) a finding that one of ordinary skill in the art could have applied the known “improvement” technique in the same way to the “base” device (method, or product) and the results would have been predictable to one of ordinary skill in the art; and
- (4) whatever additional findings based on the *Graham* factual inquiries may be necessary, in view of the facts of the case under consideration, to explain a conclusion of obviousness.

[Exhibit 1, p. 57530 at column 3.]

Rationale 4: Applying a Known Technique to a Known Device (Method, or Product)

Ready for Improvement to Yield Predictable Results

According to the KSR Guidelines, to reject a claim based on this rationale, the three-part *Graham* analysis needs to be performed and, from that analysis, the patent examiner must “articulate” the following:

- (1) a finding that the prior art contained a “base” device (method, or product) upon which the claimed invention can be seen as an “improvement;”
- (2) a finding that the prior art contained a known technique that is applicable to the base device (method, or product);
- (3) a finding that one of ordinary skill in the art would have recognized that applying the known technique would have yielded predictable results and resulted in an improved system; and
- (4) whatever additional findings based on the *Graham* factual inquiries may be necessary, in view of the facts of the case under consideration, to explain a conclusion of obviousness.

[Exhibit 1, p. 57531 at columns 1-2.]

Rationale 5: “Obvious To Try” — Choosing from a Finite Number of Identified,

Predictable Solutions, With a Reasonable Expectation of Success

According to the KSR Guidelines, to reject a claim based on this rationale, the three-part *Graham* analysis needs to be performed and, from that analysis, the patent examiner must “articulate” the following:

- (1) a finding that at the time of the invention, there had been a recognized problem or need in the art, which may include a design need or market pressure to solve a problem;
- (2) a finding that there had been a finite number of identified, predictable potential solutions to the recognized need or problem;
- (3) a finding that one of ordinary skill in the art could have pursued the known potential solutions with a reasonable expectation of success; and

(4) whatever additional findings based on the *Graham* factual inquiries may be necessary, in view of the facts of the case under consideration, to explain a conclusion of obviousness.

[Exhibit 1, p. 57532 at column 1.]

Rationale 6: Known Work in One Field of Endeavor May Prompt Variations of it for Use in Either the Same Field or a Different One Based on Design Incentives or Other Market Forces if the Variations Would Have Been Predictable to One of Ordinary Skill in the Art

According to the KSR Guidelines, to reject a claim based on this rationale, the three-part *Graham* analysis needs to be performed and, from that analysis, the patent examiner must “articulate” the following:

- (1) a finding that the scope and content of the prior art, whether in the same field of endeavor as that of the applicant’s invention or a different field of endeavor, included a similar or analogous device (method, or product);
- (2) a finding that there were design incentives or market forces which would have prompted adaptation of the known device (method, or product);
- (3) a finding that the differences between the claimed invention and the prior art were encompassed in known variations or in a principle known in the prior art;
- (4) a finding that one of ordinary skill in the art, in view of the identified design incentives or other market forces could have implemented the claimed variation of the prior art, and the claimed variation would have been predictable to one of ordinary skill in the art; and
- (5) whatever additional findings based on the *Graham* factual inquiries may be necessary, in view of the facts of the case under consideration, to explain a conclusion of obviousness.

[Exhibit 1, p. 57533 at column 1.]

Rationale 7: Some Teaching, Suggestion, or Motivation in the Prior Art that Would Have Led One of Ordinary Skill to Modify the Prior Art Reference or To Combine Prior Art Reference Teachings to Arrive at the Claimed Invention

According to the KSR Guidelines, to reject a claim based on this rationale, the three-part *Graham* analysis needs to be performed and, from that analysis, the patent examiner must “articulate” the following:

- (1) a finding that there was some teaching, suggestion, or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings;
- (2) a finding that there was reasonable expectation of success; and
- (3) whatever additional findings based on the *Graham* factual inquiries may be necessary, in view of the facts of the case under consideration, to explain a conclusion of obviousness.

[Exhibit 1, p. 57534 at columns 1-2.]

Notably, with respect to Rationales 6 and 7, the Supreme Court in *KSR* stated the following:

[W]hen there is a design need or market pressure to solve a problem and there are a **finite number of identified, predictable solutions**, a person of ordinary skill in the art has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product [is] not of innovation but of ordinary skill and common sense. **In that instance** the fact that a combination was obvious to try might show that it was obvious under § 103.

KSR at 1742; emphasis added. Here, the Court made clear that only in the instance where there are a finite number of possibilities, can the standard of “obvious to try” be applied and, even then, this standard does not necessarily result in a finding of obviousness because it only “might” show that it was obvious. Moreover, this analysis must be made with regard to the objective

reach of the claim. With this in mind, it follows that, for a prior-art reference encompassing innumerable possibilities to render obvious a claim having limited breadth, there must be some teaching, suggestion, or motivation in the prior art to pick and choose the elements now under consideration in the rejected claims.

With respect to determining the appropriateness of references used in combination to reject a claim, the Federal Circuit has consistently held that “it is impermissible within the framework of section 103 to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art.” *In re Hedges*, 783 F.2d 1038, 1041, 228 USPQ 685, 687 (Fed. Cir. 1986); *In re Wesslau*, 353 F.2d 238, 241 (C.C.P.A. 1965). In the case of *In re Fritch*, 972 F.2d 1260, 1266 (1992), the Federal Circuit forbade “hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention.” See also *Uniroyal, Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 1050-51 (Fed. Cir. 1988) (“The invention must be viewed not with the blueprint drawn by the inventor, but in the state of the art that existed at the time.”).

Thus, the case law makes clear that in rejecting a claim under 35 U.S.C. § 103(a), the rejection is to be explicitly articulated; the rejection is not to be based on hindsight; the analysis must not to exclude full consideration of portions of the prior art that a person of ordinary skill in the relevant field would take into consideration when evaluating the prior art, even though those portions may not be useful to support a desired argument for rejecting the claim; and it is important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the prior-art elements in the manner claimed.

B. Claim 1 Is Not Obvious Over *Barnett et al.*

It is alleged in the Office Action that Fig. 1 of *Barnett et al.* teaches a method for motivating a consumer to promptly purchase a product and/or service electronically over a computer network. Office Action at page 2, section 4, lines 4-5. Applicants respectfully disagree. As summarized above, *Barnett et al.* discloses a system for electronically distributing coupons to a user's personal computer 6 via an online service provider 2. Nowhere in Fig. 1 is there shown a communication line from the user's personal computer 6 to the retailer or redeeming store 10. The only communication line to the redeeming store 10 is from the coupon issuer 14, which provides discount reimbursement information to the redeeming store 10. Notably, *Barnett et al.* explains that the coupon issuer 14 receives information on redeemed coupons and, in turn, the coupon issuer "credits the redeeming store 10 with the total amount of discounts given." Column 7, lines 41-45. Thus, the arrow extending from the coupon issuer to the redeeming store 10, in Fig. 1, is not intended by *Barnett et al.* to represent a communication line for "a consumer to make an immediate purchase of a product and/or service electronically over a computer network," as claimed in the preamble of Claim 1.

Applicants note that *Barnett et al.* describes, at column 11, lines 34-44, scenarios in which the system may be used to electronically redeem a coupon. However, these scenarios merely involve the coupon being redeemed by sending the coupon data back to the online service provider 2 or by routing the coupon data to a retail store where the user will be shopping, and holding the coupon data in a buffer until the user makes a matching purchase. See column 11, lines 34-44. It is respectfully submitted that the electronic redemption scenarios described in *Barnett et al.* do not teach or even suggest "motivating a consumer to make an impulse purchase of a product and/or service electronically over a computer network upon viewing an offer for

sale of said product and/or service on a Web site,” as claimed in the preamble of Claim 1. As discussed above, the method of Claim 1 is intended to entice a consumer to make an unplanned or impulsive purchase. In contrast, the coupon distribution system of *Barnett et al.* lacks the visibly changing incentive that entices a consumer to decide impulsively to make a purchase, while the consumer is visiting a Web site. Further, the time frame for making such an impulsive decision typically would be on the order of minutes, as discussed above, whereas with the *Barnett et al.* coupon distribution system a consumer has time (*e.g.*, weeks or even months) to consider whether to make a couponed purchase, because the coupon value does not change before the consumer’s eyes. Thus, the *Barnett et al.* system would not motivate a consumer to make an impulse purchase.

It is alleged in the Office Action that Fig. 1 of *Barnett et al.* teaches the step of “providing from a server over the computer network to a consumer’s computer a program that causes said computer to (a) display an offer for sale of a product and/or service that may be purchased immediately by said consumer via the computer network.” Applicants respectfully disagree. Again, as summarized above, Fig. 1 of *Barnett et al.* shows a system for electronically distributing coupons to a user’s personal computer 6 via an online service provider 2. It is respectfully submitted that the coupon distribution system of *Barnett et al.*, as shown in Fig. 1, does not “display on a Web site of a vendor an offer for sale of a product and/or service that may be purchased from said vendor by said consumer via said Web site,” as claimed in Claim 1. Applicants note that the box labeled “INTERNET WEB SITE” shown at the upper right side of Fig. 1 is described merely to be a “central data repository” that performs “the marketing analysis, coupon packaging, and coupon package distribution functions” of the coupon distributor 16. See column 13, lines 4-8. Applicants have found nothing in *Barnett et al.* to even suggest that the

“INTERNET WEB SITE” of Fig. 1 displays a Web site of a vendor, in which the Web site shows “an offer for sale of a product and/or service that may be purchased via said Web site,” as claimed in Claim 1.

It is alleged in the Office Action that Figs. 1 and 4 of *Barnett et al.* teach the step of “providing from a server over the computer network to a consumer’s computer a program that causes said computer to . . . (c) when said consumer makes an electronic purchase of said product and/or service by electronically accepting said offer, provide to said server an indication of acceptance and a current displayed value of said incentive.” Again, Applicants respectfully disagree.

Fig. 1 has been described at length above. Notably, *Barnett et al.* states that Figs. 4a and 4b are “pictorial representations of the online and offline display screens, respectively, which are exhibited to a user in the present invention.” See column 6, lines 7-9. Thus, *Barnett et al.* clearly states that the invention disclosed therein contemplates that, when the user is online, the user has the options shown in Fig. 4a:

An online display screen 60 is shown in FIG. 4a, which is provided to a user on a display 24 of his remote computer 6 whenever he is on online communication with the service provider 2. The online display screen 60 comprises a join service function button 62, a download coupons function button 64, a help function button 66, and an online communications button 68.

Column 7, lines 56-62. Similarly, when the user is offline, the user has the options shown in Fig. 4b. None of the options available to the user of the *Barnett et al.* coupon distribution system, whether the user is online or offline, involves “(c) when said consumer makes an electronic purchase of said product and/or service by electronically accepting said offer via said Web site, provide to said server an indication of acceptance and a current displayed value of said

incentive,” wherein the value of the incentive changes to other values “while said consumer is visiting said Web site,” as claimed in Claim 1.

It is alleged in the Office Action that column 11, line 66, to column 12, line 8, and column 13, lines 24-26, of *Barnett et al.* teach the step of “providing from a server over the computer network to a consumer’s computer a program that causes said computer to . . . (b) concurrently display on said Web page of said vendor an incentive for purchasing said product and/or service promptly, wherein said program causes said incentive to be initially set to an initial displayed value and then changes said incentive over a period of time to at least one other displayed value while said offer is displayed.” Applicants respectfully cannot agree.

The cited portions of *Barnett et al.* read as follows:

The system of the present invention also allows for time-sensitive deletion of certain coupon data from the user computer 6 which is unrelated to the expiration date. That is, certain coupon data may be automatically deleted from the user’s computer after, e.g., **one month**, notwithstanding that the coupon, if printed, might have an expiration date in **six months**. This feature is included to prompt users who know of the time-sensitive autodeletion to promptly print (and use) coupons rather than risk having them deleted from their database.

The coupon management program also can vary the redemption value of any coupon already downloaded to the user’s computer 6 without the need for specific user interaction. A coupon variation routine 32f is called which aids in this task. Again, any time that a user initiates a download of coupon data, the on-line service provider 2 can update redemption amounts for coupons whose issuers have decided to change the discount amount.

Column 11, line 66, to column 12, line 16; emphasis added. (Please note that the second paragraph was not cited in reference to substep “(b)” but has been included for discussion.)

The availability of the coupon could be time-sensitive, which would provide further incentive to the user to use the system in a prompt and efficient manner.

Column 13, lines 24-26.

It is respectfully submitted that the above-quoted portions of *Barnett et al.* have nothing to do with displaying on a vendor's Web site the following items: (1) an offer for sale of a product and/or service that a consumer may purchase from the vendor via the Web site, and (2) an incentive for purchasing the product and/or service, in which the incentive is displayed while the consumer is visiting the Web site, and in which the incentive has an initial displayed value that changes over a period of time to other displayed values while the consumer is visiting the Web site. Further, the above-quoted portions of *Barnett et al.* have nothing to do with motivating the consumer to make an impulse purchase while visiting the Web site. Again, the method of Claim 1 is intended to entice a consumer to make an impulse purchase by changing (*e.g.*, decreasing) the value of the incentive while it is being displayed during the consumer's visit to the Web site.

Further, the bolded portions of the above-quoted portions of *Barnett et al.* are respectfully submitted to support Applicants' position that *Barnett et al.* merely discloses a traditional coupon that is provided to a consumer via a computer — the time frame of *months* clearly would not entice a consumer to make an impulse purchase. It is respectfully submitted that, absent impermissible hindsight, a person of ordinary skill in the art would find no suggestion in the disclosure of *Barnett et al.* to modify the system taught in *Barnett et al.* to include the features of (a) displaying "on a Web site of a vendor an offer for sale of a product and/or service that may be purchased from said vendor by said consumer via said Web site," and (b) displaying "on said Web site of said vendor an incentive for purchasing said product and/or

service, wherein said incentive is displayed while said consumer is visiting said Web site, and wherein said program causes said incentive to be initially set to an initial displayed value and then changes said incentive over a period of time to other displayed values while said consumer is visiting said Web site,” and (c) when the consumer makes an electronic purchase of the product and/or service by electronically accepting the offer via the Web site, providing “to said server an indication of acceptance and a current displayed value of said incentive,” as claimed in Claim 1.

The Office Action alleges that the above-quoted portion of column 13, lines 24-26, of *Barnett et al.* makes substep “(b)” obvious to a person of ordinary skill in the art “to have made the offer and the incentive to purchase the product to be concurrently displayed in order to provide a reminder to the customer to promptly redeem the offer.” Applicants strongly and respectfully disagree.

Firstly, the “time-sensitive” nature of the cited portion of *Barnett et al.* refers to the autodeletion feature summarized above and discussed in detail at column 11, lines 45-55; and column 11, line 66, to column 12, line 8. That is, *Barnett et al.* merely teaches that the coupon deletion routine 32e: (1) automatically deletes expired coupons from the coupon database 30 (column 11, lines 52-55); (2) automatically deletes coupons that already have been printed (column 11, lines 45-52); and (3) may automatically delete a coupon from the coupon database 30 after a period of time (“e.g., one month”) and before the expiration date of the coupon in order to encourage users to “promptly print (and use) coupons rather than risk having them deleted from their database” (column 12, lines 1-8). The first autodeletion option merely allows an easy clean-up of the coupon database 30, so that unused (*i.e.*, unprinted) and expired coupons are deleted. The second autodeletion option merely is a fraud prevention feature, to prevent

fraudulent redemption of duplicate coupons. The third autodeletion option merely encourages users to *print* a coupon before the coupon is automatically deleted upon its expiration. Again, it is respectfully submitted that this third option would not entice a consumer to make an impulsive *purchase*; at most the third option would encourage the consumer to print the coupon before it expires, but it is respectfully submitted that having a printed coupon would not motivate the consumer to make an impulsive purchase while visiting a Web site. As discussed above, *Barnett et al.* contemplates a time frame on the order of months and not a time frame on the order of the amount of time a consumer would spend visiting a Web site. At most, the third option would cause the consumer to quickly print the coupon and hold it for *later* use. It is further respectfully submitted that none of these three autodeletion options would suggest to a person of ordinary skill in the art to display (1) an offer for sale of a product and/or service that may be purchased via a Web site, and (2) an incentive for a consumer to purchase the product and/or service via the Web site, in which the displayed incentive has a value that changes with time to other values while the consumer is visiting the Web site.

Secondly, Applicants recognize that the Supreme Court in *KSR* clarified how obviousness is to be determined, as summarized above, and stated that only in the instance where there are a finite number of possibilities can the standard of “obvious to try” be applied and, even then, this standard does not necessarily result in a finding of obviousness because it only “might” show that it was obvious. The obviousness analysis must be made with regard to the objective reach of the claim. With respect to the purported motivation offered in the Office Action, *i.e.*, to remind a customer to promptly redeem an offer, Applicants submit that that there are innumerable ways to make such a reminder to the customer. With this in mind, it follows that, for a prior-art reference encompassing innumerable possibilities to render obvious a claim having limited

breadth, there must be some teaching, suggestion, or motivation in the prior art to pick and choose the elements now under consideration in the rejected claims. No such teaching, suggestion, or motivation has been found in *Barnett et al.* Accordingly, as discussed above, it is respectfully submitted that a person of ordinary skill in the art would not find it obvious to try the particular scheme claimed in Claim 1 without the use of impermissible hindsight.

To further clarify that Claim 1 is aimed at promoting impulse purchases, substep “(b)” has been clarified to state: “(b) display on said Web site of said vendor an incentive for purchasing said product and/or service, wherein said incentive is displayed *while said consumer is visiting said Web site*, and wherein said program causes said incentive to be initially set to an initial displayed value and then *changes said incentive over a period of time to other displayed values while said consumer is visiting said Web site.*” (Emphasis added.) This feature is not found nor suggested in *Barnett et al.* Should the Examiner disagree, the Examiner is respectfully requested to specifically point out the portion of *Barnett et al.* that teaches substep “(b).”

With respect to the claimed features of “registering at said server an initial time at which said incentive is initially displayed” and “registering at said server an acceptance time at which said consumer electronically accepts said offer,” the Office Action contends that these features are disclosed in *Barnett et al.*, because “the demographic data file 42 contains data representative of the demographic inquiries presented to the user at the time the user requests a download of coupon data from the coupon package data file 40, as well as data representative of the user’s response thereto.” See Office Action at page 2, section 4, line 13, to page 3, line 8. Applicants respectfully disagree with this characterization of *Barnett et al.* The quoted portion of *Barnett et al.* is at column 8, lines 34-38. As discussed above, this portion merely indicates that, when the user requests coupon data to be downloaded, the user must answer demographic

questions, and the answers are stored in the demographic data file 42. However, there is nothing in *Barnett et al.* that indicates that the coupon distribution system registers a time when a variable incentive is initially displayed, and also registers a time when a consumer electronically makes a purchase, and further uses these registered times to verify that the consumer is entitled to the value of the displayed incentive in connection with the electronically made purchase.

It appears that the analysis made in the Office Action does not fully take into account the feature of the incentive being variable, *i.e.*, the incentive changes to other values as it is displayed while a consumer is visiting a Web site. This analysis instead merely concludes that a determination is made as to whether the coupon has expired and, if not, the consumer is given the “current value” of the coupon, which presumably would be the original (fixed) value of the coupon. As discussed above, *Barnett et al.* teaches the use of conventional coupons that have a set value until they expire, at which point their value becomes zero. No variation in the coupon’s value occurs — the value is either full or zero. It is respectfully submitted that the interpretation presented in the Office Action misconstrues the meaning of the phrase “current displayed value” as used in Claim 1. The claimed “current displayed value” reflects the value that the incentive has changed to over time, and is not merely the value the coupon would have if the coupon has not expired.

With due respect, Applicants submit that a fair interpretation of Claim 1 would not be the overly broad and incorrect interpretation presented in the Office Action. In fact, with the interpretation presented in the Office Action, the descriptive term “current displayed” would have *no meaning*. Such a distorted analysis may make it convenient to selectively apply *Barnett et al.* but is respectfully submitted to be improper. An interpretation in which the meanings of selected claim terms are ignored cannot be valid.

Finally, with respect to the application of selected portions of *Barnett et al.* against Claim 1, Applicants reiterate that the Federal Circuit has consistently held that “it is impermissible within the framework of section 103 to pick and choose from any one reference only so much of it as will support a given position, **to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art.**” *In re Hedges*, 783 F.2d 1038, 1041, 228 USPQ 685, 687 (Fed. Cir. 1986); *In re Wesslau*, 353 F.2d 238, 241 (C.C.P.A. 1965); emphasis added.

In summary, with respect to the KSR Rationales discussed above, a *prima facie* case of obviousness has not been established for at least the following reasons:

Rationale 1

- (1) The prior art does not disclose or suggest each and every element claimed, *i.e.*, the prior art does not show or suggest, *inter alia*, substeps (a), (b), and (c) of Claim 1.
- (2) A person of ordinary skill in the art could not combine the elements disclosed in the prior art to produce the method of Claim 1, for at least the reason that the prior art does not show every element claimed. As a consequence, items (3) and (4) of this Rationale also have not been met.

Rationale 2

- (1) The prior art does not disclose or suggest each and every element claimed, *i.e.*, the prior art does not show or suggest, *inter alia*, substeps (a), (b), and (c) of Claim 1.
- (2) A person of ordinary skill in the art could not substitute an element from a prior-art reference with an element from another prior-art reference to produce the method of Claim 1, for at least the reason that the prior art does not show every element claimed. As a consequence, items (3) and (4) of this Rationale also have not been met.

Rationales 3 and 4

(1) The prior art does not disclose or suggest each and every element claimed, *i.e.*, the prior art does not show or suggest, *inter alia*, substeps (a), (b), and (c) of Claim 1.

(2) A person of ordinary skill in the art could not improve on a “base” method disclosed in a prior-art reference with an improvement made in a “comparable” method from another prior-art reference or a known technique used in another prior-art method to produce the method of Claim 1, for at least the reason that the prior art does not show every element claimed. As a consequence, items (3) and (4) of these Rationales also have not been met.

Rationale 5

(1) The prior art does not disclose or suggest that there has been a need in the art or a recognized problem that the method of Claim 1 would solve, *i.e.*, the prior art does not demonstrate why a method with, *inter alia*, substeps (a), (b), and (c) of Claim 1 would be needed or desired.

(2) Even if it is assumed *arguendo*, *i.e.*, hypothetically, that a desire or need for the method of Claim 1 has been demonstrated, it cannot be established that there is a finite number of identified, predictable potential solutions. In fact, it is respectfully submitted that there are an infinite number of possibilities for enticing a consumer to make an impulse purchase. Because of the unlimited number of possible solutions, a person of ordinary skill in the art could not try each and every possibility. As a consequence, items (3) and (4) of the Rationale also have not been met.

Rationale 6

(1) The prior art does not disclose or suggest a similar or an analogous method with, *inter alia*, substeps (a), (b), and (c) of Claim 1. Applicants submit that a person of ordinary skill would not find *Barnett et al.* to disclose a method that is similar/analogous to Claim 1.

(2) There has been no showing that there were design incentives or market forces that would have prompted adaptation of the teachings *Barnett et al.*, even if *Barnett et al.* is assumed to disclose a similar/analogous method (which it does not). Again, as with Rationale 5, the prior art does not demonstrate why a method with, *inter alia*, substeps (a), (b), and (c) of Claim 1 would be needed or desired. Thus, there is no reason, absent impermissible hindsight, for a person of ordinary skill to come up with the particular method of Claim 1 to solve an unknown problem. As a consequence, items (3), (4), and (5) of the Rationale also have not been met.

Rationale 7

This is the traditional teaching, suggestion, or motivation rationale. For the reasons presented above, the requirements of this Rationale clearly have not been met.

Accordingly, in view of the above discussion, Applicants respectfully submit that none of the KSR Rationales have been met and therefore Claim 1 is submitted to be patentable and non-obvious over *Barnett et al.*

C. Claims 30 and 36-39 Are Not Obvious Over *Barnett et al.*

Independent Claims 30 and 36-39 include features similar to those of Claim 1 and therefore are submitted to be patentable for at least the reasons discussed above in connection with Claim 1.

D. The Dependent Claims Are Not Obvious Over *Barnett et al.*

The other rejected claims in the present application depend from Claim 1 or Claim 30 or Claim 39 and are submitted to be patentable for at least the reasons discussed above in connection with those independent claims. Additionally, because each dependent claim is

deemed to define a further aspect of the invention, individual reconsideration of the patentability of each claim on its own merits is respectfully requested.

* * * * *

In view of the foregoing, Applicants respectfully request favorable consideration and early passage to issue of the present application.

Applicants' undersigned attorney may be reached in our New York Office by telephone at (212) 218-2100. All correspondence should continue to be directed to our address listed below.

Respectfully submitted,

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Special Accommodations

This meeting is physically accessible to people with disabilities. Requests for sign language interpretation or other auxiliary aids should be directed to Paul J. Howard (see ADDRESSES) at least 5 days prior to the meeting date.

Dated: October 3, 2007.

Tracey L. Thompson,
Acting Director, Office of Sustainable
Fisheries, National Marine Fisheries Service.
[FR Doc. E7-19823 Filed 10-9-07; 8:45 am]
BILLING CODE 3510-22-S

DEPARTMENT OF COMMERCE

Patent and Trademark Office

[Docket No.: PTO-P-2007-0031]

Examination Guidelines for Determining Obviousness Under 35 U.S.C. 103 in View of the Supreme Court Decision in *KSR International Co. v. Teleflex Inc.*

AGENCY: United States Patent and
Trademark Office, Commerce.
ACTION: Notice.

SUMMARY: The United States Patent and Trademark Office (USPTO) is publishing examination guidelines for determining obviousness under 35 U.S.C. 103 in view of the Supreme Court decision in *KSR International Co. v. Teleflex Inc.* These guidelines will assist USPTO personnel to make a proper determination of obviousness under 35 U.S.C. 103 and to provide an appropriate supporting rationale.

DATES: These guidelines are effective October 10, 2007.

FOR FURTHER INFORMATION CONTACT: Contact either Kathleen Kahler Fonda, Legal Advisor (telephone (571) 272-7754; e-mail kathleen.fonda@uspto.gov) or Pinchus M. Laufer, Patent Examination Policy Analyst (telephone (571) 272-7726; e-mail pinchus.laufer@uspto.gov), of the Office of the Deputy Commissioner for Patent Examination Policy. Alternatively, mail may be addressed to Ms. Fonda or Mr. Laufer at Commissioner for Patents, attn: KSR, P.O. Box 1450, Alexandria, VA 22313-1450.

SUPPLEMENTARY INFORMATION: These guidelines are intended to assist Office personnel to make a proper determination of obviousness under 35 U.S.C. 103, and to provide an appropriate supporting rationale in view of the recent decision by the Supreme Court in *KSR International Co. v. Teleflex Inc.* (KSR).¹ The guidelines are

based on the Office's current understanding of the law, and are believed to be fully consistent with the binding precedent of the Supreme Court.²

These guidelines do not constitute substantive rule making and hence do not have the force and effect of law. They have been developed as a matter of internal Office management and are not intended to create any right or benefit, substantive or procedural, enforceable by any party against the Office. Rejections will continue to be based upon the substantive law, and it is these rejections that are appealable. Consequently, any failure by Office personnel to follow the guidelines is neither appealable nor petitionable.

To the extent that earlier guidance from the Office, including certain sections of the current Manual of Patent Examining Procedure (MPEP), is inconsistent with the guidance set forth herein, Office personnel are to follow these guidelines. The next revision of the MPEP will be updated accordingly.

I. The *KSR* Decision and Principles of the Law of Obviousness

Teleflex owned a patent claiming technology useful in the gas pedal of a car. The invention at issue in *KSR* was a pedal assembly that could be adjusted to accommodate drivers of different statures. The electronic pedal-position sensor was positioned on the support for the pedal assembly, and the pivot point of the pedal remained fixed regardless of how the pedal assembly was adjusted. This combination of the fixed pivot point for the adjustable pedal and the fixed sensor position on the support resulted in a simpler, lighter, and more compact design.

Teleflex sued KSR for infringement. The district court cited references that separately taught adjustable pedals and sensors, and found on summary judgment that Teleflex's patent was invalid for obviousness. On appeal, the Federal Circuit vacated the district court's decision, and remanded the case. The Federal Circuit stated that "the district court's analysis applied an incomplete teaching-suggestion-motivation test" in arriving at the finding of obviousness.³

Upon KSR's petition for review of the Federal Circuit's decision, the Supreme Court reversed, concluding that the district court had correctly determined that the patent was invalid for

obviousness. The Supreme Court reaffirmed the familiar framework for determining obviousness as set forth in *Graham v. John Deere Co.*, but stated that the Federal Circuit had erred by applying the teaching-suggestion-motivation (TSM) test in an overly rigid and formalistic way.⁴ Specifically, the Supreme Court stated that the Federal Circuit had erred in four ways: (1) "By holding that courts and patent examiners should look only to the problem the patentee was trying to solve;"⁵ (2) by assuming "that a person of ordinary skill attempting to solve a problem will be led only to those elements of prior art designed to solve the same problem;"⁶ (3) by concluding "that a patent claim cannot be proved obvious merely by showing that the combination of elements was 'obvious to try,'"⁷ and (4) by overemphasizing "the risk of courts and patent examiners falling prey to hindsight bias" and as a result applying "[r]igid preventative rules that deny factfinders recourse to common sense."⁸

In *KSR*, the Supreme Court particularly emphasized "the need for caution in granting a patent based on the combination of elements found in the prior art,"⁹ and discussed circumstances in which a patent might be determined to be obvious. Importantly, the Supreme Court reaffirmed principles based on its precedent that "[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results."¹⁰ The Supreme Court stated that there are "[t]hree cases decided after *Graham* [that] illustrate this doctrine."¹¹ (1) "In *United States v. Adams*, * * * [t]he Court recognized that when a patent claims a structure already known in the prior art that is altered by the mere substitution of one element for another known in the field, the combination must do more than yield a predictable result."¹² (2) "In *Anderson's-Black Rock, Inc. v. Pavement Salvage Co.*, * * * [t]he two [pre-existing elements] in combination did no more than they would in separate, sequential operation."¹³ (3) "[I]n *Sakraida v. AG Pro, Inc.*, the Court derived * * * the conclusion that when

⁴ *KSR*, 550 U.S. at ___, 82 USPQ2d at 1391.

⁵ *Id.* at ___, 82 USPQ2d at 1397.

⁶ *Id.*

⁷ *Id.*

⁸ *Id.*

⁹ *Id.* at ___, 82 USPQ2d at 1395.

¹⁰ *Id.*

¹¹ *Id.*

¹² *Id.*

¹³ *Id.*

² Further developments in the law of obviousness are to be expected in view of *KSR*. Thus, it is not clear which Federal Circuit decisions will retain their viability.

³ *Teleflex Inc. v. KSR Int'l Co.*, 119 Fed. Appx. 282, 288 (Fed. Cir. 2005).

¹ 550 U.S. ___, 82 USPQ2d 1385 (2007).

a patent simply arranges old elements with each performing the same function it had been known to perform and yields no more than one would expect from such an arrangement, the combination is obvious.”¹⁴ (Internal quotations omitted.) The principles underlying these cases are instructive when the question is whether a patent application claiming the combination of elements of prior art would have been obvious. The Supreme Court further stated that:

When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, 35 U.S.C. 103 bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.¹⁵

When considering obviousness of a combination of known elements, the operative question is thus “whether the improvement is more than the predictable use of prior art elements according to their established functions.”¹⁶

II. The Basic Factual Inquiries of *Graham v. John Deere Co*

An invention that would have been obvious to a person of ordinary skill at the time of the invention is not patentable.¹⁷ As reiterated by the Supreme Court in *KSR*, the framework for the objective analysis for determining obviousness under 35 U.S.C. 103 is stated in *Graham v. John Deere Co*.¹⁸ Obviousness is a question of law based on underlying factual inquiries. The factual inquiries enunciated by the Court are as follows:

- (1) Determining the scope and content of the prior art;
- (2) Ascertaining the differences between the claimed invention and the prior art; and
- (3) Resolving the level of ordinary skill in the pertinent art.

Objective evidence relevant to the issue of obviousness must be evaluated by Office personnel.¹⁹ Such evidence, sometimes referred to as “secondary considerations,” may include evidence of commercial success, long-felt but unsolved needs, failure of others, and unexpected results. The evidence may be included in the specification as filed,

accompany the application on filing, or be provided in a timely manner at some other point during the prosecution. The weight to be given any objective evidence is decided on a case-by-case basis. The mere fact that an applicant has presented evidence does not mean that the evidence is dispositive of the issue of obviousness.

The question of obviousness must be resolved on the basis of these factual determinations. While each case is different and must be decided on its own facts, the *Graham* factors, including secondary considerations when present, are the controlling inquiries in any obviousness analysis.²⁰ As stated by the Supreme Court in *KSR*, “While the sequence of these questions might be reordered in any particular case, the [*Graham*] factors continue to define the inquiry that controls.”²¹

Office Personnel as Factfinders

Office personnel fulfill the critical role of factfinder when resolving the *Graham* inquiries. It must be remembered that while the ultimate determination of obviousness is a legal conclusion, the underlying *Graham* inquiries are factual. When making an obviousness rejection, Office personnel must therefore ensure that the written record includes findings of fact concerning the state of the art and the teachings of the references applied. In certain circumstances, it may also be important to include explicit findings as to how a person of ordinary skill would have understood prior art teachings, or what a person of ordinary skill would have known or could have done. Factual findings made by Office personnel are the necessary underpinnings to establish obviousness.

Once the findings of fact are articulated, Office personnel must provide an explanation to support an obviousness rejection under 35 U.S.C. 103. 35 U.S.C. 132 requires that the applicant be notified of the reasons for the rejection of the claim so that he or she can decide how best to proceed. Clearly setting forth findings of fact and the rationale(s) to support a rejection in an Office action leads to the prompt

resolution of issues pertinent to patentability.²²

In short, the focus when making a determination of obviousness should be on what a person of ordinary skill in the pertinent art would have known at the time of the invention, and on what such a person would have reasonably expected to have been able to do in view of that knowledge. This is so regardless of whether the source of that knowledge and ability was documentary prior art, general knowledge in the art, or common sense. What follows is a discussion of the *Graham* factual inquiries.

A. Determining the Scope and Content of the Prior Art

In determining the scope and content of the prior art, Office personnel must first obtain a thorough understanding of the invention disclosed and claimed in the application under examination by reading the specification, including the claims, to understand what the applicant has invented.²³ The scope of the claimed invention must be clearly determined by giving the claims the “broadest reasonable interpretation consistent with the specification.”²⁴ Once the scope of the claimed invention is determined, Office personnel must then determine what to search for and where to search.

1. *What to search for*: The search should cover the claimed subject matter and should also cover the disclosed features which might reasonably be expected to be claimed.²⁵ Although a rejection need not be based on a teaching or suggestion to combine, a preferred search will be directed to finding references that provide such a teaching or suggestion if they exist.

2. *Where to search*: Office personnel should continue to follow the general search guidelines set forth in MPEP § 904 to § 904.03 regarding search of the prior art. Office personnel are reminded that, for purposes of 35 U.S.C. 103, prior art can be either in the field of applicant’s endeavor or be reasonably pertinent to the particular problem with which the applicant was concerned. Furthermore, prior art that is in a field of endeavor other than that of the applicant,²⁶ or solves a problem which

²⁰ The *Graham* factors were reaffirmed and relied upon by the Supreme Court in its consideration and determination of obviousness in the fact situation presented in *KSR*, 550 U.S. at ___, 82 USPQ2d at 1391. The Supreme Court has utilized the *Graham* factors in each of its obviousness decisions since *Graham*. See *Sakraida v. Ag Pro, Inc.*, 425 U.S. 273, 189 USPQ 449, reh’g denied, 426 U.S. 955 (1976); *Dann v. Johnston*, 425 U.S. 219, 189 USPQ 257 (1976); and *Anderson’s-Black Rock, Inc. v. Pavement Salvage Co.*, 396 U.S. 57, 163 USPQ 673 (1969).

²¹ *KSR*, 550 U.S. at ___, 82 USPQ2d at 1391.

²² These guidelines focus on the proper content of an obviousness rejection, and should not be construed as dictating any particular format.

²³ See MPEP § 904 (8th edition, revision 5, August 2006).

²⁴ See *Phillips v. AWH Corp.*, 415 F.3d 1303, 1316, 75 USPQ2d 1321, 1329 (Fed. Cir. 2005) and MPEP § 2111.

²⁵ See MPEP § 904.02.

²⁶ As noted by the Court in *KSR*, “[w]hen a work is available in one field of endeavor, design

Continued

¹⁴ *Id.* at ___, 82 USPQ2d at 1395–96.

¹⁵ *Id.* at ___, 82 USPQ2d at 1396.

¹⁶ *Id.*

¹⁷ 35 U.S.C. 103(a).

¹⁸ 383 U.S. 1, 148 USPQ 459 (1966).

¹⁹ *Id.* at 17–18, 148 USPQ at 467.

is different from that which the applicant was trying to solve, may also be considered for the purposes of 35 U.S.C. 103.²⁷

For a discussion of what constitutes prior art, see MPEP § 901 to § 901.06(d) and § 2121 to § 2129.

B. Ascertaining the Differences Between the Claimed Invention and the Prior Art

Ascertaining the differences between the claimed invention and the prior art requires interpreting the claim language,²⁸ and considering both the invention and the prior art as a whole.²⁹

C. Resolving the Level of Ordinary Skill in the Art

Any obviousness rejection should include, either explicitly or implicitly in view of the prior art applied, an indication of the level of ordinary skill. A finding as to the level of ordinary skill may be used as a partial basis for a resolution of the issue of obviousness.

The person of ordinary skill in the art is a hypothetical person who is presumed to have known the relevant art at the time of the invention. Factors that may be considered in determining the level of ordinary skill in the art may include: (1) "Type of problems encountered in the art;" (2) "prior art solutions to those problems;" (3) "rapidity with which innovations are made;" (4) "sophistication of the technology;" and (5) "educational level of active workers in the field. In a given case, every factor may not be present,

incentives and other market forces can prompt variations of it, either in the same field or a different one." (Emphasis added) 550 U.S. at __, 82 USPQ2d at 1396.

²⁷ The Court in *KSR* stated that "[t]he first error * * * in this case was * * * holding that courts and patent examiners should look only to the problem the patentee was trying to solve. The Court of Appeals failed to recognize that the problem motivating the patentee may be only one of many addressed by the patent's subject matter * * *. The second error [was] * * * that a person of ordinary skill attempting to solve a problem will be led only to those elements of prior art designed to solve the same problem." 550 U.S. at __, 82 USPQ2d at 1397. Federal Circuit case law prior to the Supreme Court's decision in *KSR* is generally in accord with these statements by the *KSR* Court. See, e.g., *In re Dillon*, 919 F.2d 688, 693, 16 USPQ2d 1897, 1901 (Fed. Cir. 1990) (en banc) ("[I]t is not necessary in order to establish a *prima facie* case of obviousness that both a structural similarity between a claimed and prior art compound (or a key component of a composition) be shown and that there be a suggestion in or expectation from the prior art that the claimed compound or composition will have the same or a similar utility as one newly discovered by applicant."); *In re Lintner*, 458 F.2d 1013, 1018, 173 USPQ 560, 562 (CCPA 1972) ("The fact that [applicant] uses sugar for a different purpose does not alter the conclusion that its use in a prior art composition would be *prima facie* obvious from the purpose disclosed in the references.").

²⁸ See MPEP § 2111.

²⁹ See MPEP § 2141.02.

and one or more factors may predominate."³⁰

"A person of ordinary skill in the art is also a person of ordinary creativity, not an automaton."³¹ "[I]n many cases a person of ordinary skill will be able to fit the teachings of multiple patents together like pieces of a puzzle."³² Office personnel may also take into account "the inferences and creative steps that a person of ordinary skill in the art would employ."³³

In addition to the factors above, Office personnel may rely on their own technical expertise to describe the knowledge and skills of a person of ordinary skill in the art.³⁴

III. Rationales To Support Rejections Under 35 U.S.C. 103

Once the *Graham* factual inquiries are resolved, Office personnel must determine whether the claimed invention would have been obvious to one of ordinary skill in the art.

The obviousness analysis cannot be confined by * * * overemphasis on the importance of published articles and the explicit content of issued patents * * *. In many fields it may be that there is little discussion of obvious techniques or combinations, and it often may be the case that market demand, rather than scientific literature, will drive design trends.³⁵

Prior art is not limited just to the references being applied, but includes the understanding of one of ordinary skill in the art. The prior art reference (or references when combined) need not teach or suggest all the claim limitations; however, Office personnel must explain why the difference(s) between the prior art and the claimed invention would have been obvious to one of ordinary skill in the art. The "mere existence of differences between the prior art and an invention does not establish the invention's nonobviousness."³⁶ The gap between the prior art and the claimed invention may not be "so great as to render the

[claim] nonobvious to one reasonably skilled in the art."³⁷ In determining obviousness, neither the particular motivation to make the claimed invention nor the problem the inventor is solving controls. The proper analysis is whether the claimed invention would have been obvious to one of ordinary skill in the art after consideration of all the facts.³⁸ Factors other than the disclosures of the cited prior art may provide a basis for concluding that it would have been obvious to one of ordinary skill in the art to bridge the gap. The rationales discussed below outline reasoning that may be applied to find obviousness in such cases.

If the search of the prior art and the resolution of the *Graham* factual inquiries reveal that an obviousness rejection may be made using the familiar teaching-suggestion-motivation (TSM) rationale, then such a rejection using the TSM rationale can still be made. Although the Supreme Court in *KSR* cautioned against an overly rigid application of TSM, it also recognized that TSM was one of a number of valid rationales that could be used to determine obviousness.³⁹ Office personnel should also consider whether one or more of the other rationales set forth below support a conclusion of obviousness.⁴⁰ Note that the list of rationales provided below is not intended to be an all-inclusive list. Other rationales to support a conclusion of obviousness may be relied upon by Office personnel.

The key to supporting any rejection under 35 U.S.C. 103 is the clear articulation of the reason(s) why the claimed invention would have been obvious. The Supreme Court in *KSR* noted that the analysis supporting a rejection under 35 U.S.C. 103 should be made explicit. The Court quoting *In re Kahn*⁴¹ stated that "[R]ejections on obviousness cannot be sustained by

³⁷ *Id.*

³⁸ 35 U.S.C. 103(a).

³⁰ *In re GPAC*, 57 F.3d 1573, 1579, 35 USPQ2d 1116, 1121 (Fed. Cir. 1995); *Custom Accessories, Inc. v. Jeffrey-Allan Indus., Inc.*, 807 F.2d 955, 962, 1 USPQ2d 1196, 1201 (Fed. Cir. 1986); *Envil. Designs, Ltd. v. Union Oil Co.*, 713 F.2d 693, 696, 218 USPQ 865, 868 (Fed. Cir. 1983).

³¹ *KSR*, 550 U.S. at __, 82 USPQ2d at 1397.

³² *Id.*

³³ *Id.* at __, 82 USPQ2d at 1396.

³⁴ The Federal Circuit has stated that examiners and administrative patent judges on the Board are "persons of scientific competence in the fields in which they work" and that their findings are "informed by their scientific knowledge, as to the meaning of prior art references to persons of ordinary skill in the art." *In re Berg*, 320 F.3d 1310, 1315, 65 USPQ2d 2003, 2007 (Fed. Cir. 2003).

³⁵ *KSR*, 550 U.S. at __, 82 USPQ2d at 1396.

³⁶ *Dann v. Johnston*, 425 U.S. 219, 230, 189 USPQ 257, 261 (1976).

³⁹ According to the Supreme Court, establishment of the TSM approach to the question of obviousness "captured a helpful insight." 550 U.S. at __, 82 USPQ2d 1385, 1396 (citing *In re Bergel*, 292 F.2d 955, 956-57, 130 USPQ 206, 207-08 (1961)). Furthermore, the Court explained that "[t]here is no necessary inconsistency between the idea underlying the TSM test and the *Graham* analysis." *KSR*, 550 U.S. at __, 82 USPQ2d at 1396. The Supreme Court also commented that the Federal Circuit "no doubt has applied the test in accord with these principles [set forth in *KSR*] in many cases." *Id.* at __, 82 USPQ2d at 1396.

⁴⁰ The Court in *KSR* identified a number of rationales to support a conclusion of obviousness which are consistent with the proper "functional approach" to the determination of obviousness as laid down in *Graham*. *Id.* at __, 82 USPQ2d at 1395-97.

⁴¹ 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006).

mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.’”⁴²

Rationales

(A) Combining prior art elements according to known methods to yield predictable results;

(B) Simple substitution of one known element for another to obtain predictable results;

(C) Use of known technique to improve similar devices (methods, or products) in the same way;

(D) Applying a known technique to a known device (method, or product) ready for improvement to yield predictable results;

(E) “Obvious to try”—choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success;

(F) Known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces if the variations would have been predictable to one of ordinary skill in the art;

(G) Some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or to combine prior art reference teachings to arrive at the claimed invention.

The subsections below include discussions of each rationale along with examples illustrating how the cited rationales may be used to support a finding of obviousness. The cases cited (from which the facts were derived) may not necessarily stand for the proposition that the particular rationale is the basis for the court’s holding of obviousness. Note that, in some instances, a single case is used in different subsections to illustrate the use of more than one rationale to support a finding of obviousness. It may often be the case that, once the *Graham* inquiries have been satisfactorily resolved, a conclusion of obviousness may be supported by more than one line of reasoning.

A. Combining Prior Art Elements According to Known Methods To Yield Predictable Results

To reject a claim based on this rationale, Office personnel must resolve the *Graham* factual inquiries. Office personnel must then articulate the following:

(1) a finding that the prior art included each element claimed, although not

necessarily in a single prior art reference, with the only difference between the claimed invention and the prior art being the lack of actual combination of the elements in a single prior art reference;

(2) a finding that one of ordinary skill in the art could have combined the elements as claimed by known methods, and that in combination, each element merely would have performed the same function as it did separately;

(3) a finding that one of ordinary skill in the art would have recognized that the results of the combination were predictable; and

(4) whatever additional findings based on the *Graham* factual inquiries may be necessary, in view of the facts of the case under consideration, to explain a conclusion of obviousness.

The rationale to support a conclusion that the claim would have been obvious is that all the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded nothing more than predictable results to one of ordinary skill in the art at the time of the invention.⁴³ “[I]t can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does.”⁴⁴ If any of these findings cannot be made, then this rationale cannot be used to support a conclusion that the claim would have been obvious to one of ordinary skill in the art.

Example 1: The claimed invention in *Anderson’s-Black Rock, Inc. v. Pavement Salvage Co.*⁴⁵ was a paving machine which combined several well-known elements onto a single chassis. Standard prior art paving machines typically combined equipment for spreading and shaping asphalt onto a single chassis. The patent claim included the well-known element of a radiant-heat burner attached to the side of the paver for the purpose of preventing cold joints during continuous strip paving.⁴⁶ All of the component parts were known in the prior art. The only difference was the combination of the “old elements” into a single device by mounting them on a single chassis. The Court found that the operation of the heater was in no way dependent on the operation of the other equipment, and that a separate heater could also be used in conjunction with a

standard paving machine to achieve the same results. The Court concluded that “[t]he convenience of putting the burner together with the other elements in one machine, though perhaps a matter of great convenience, did not produce a ‘new’ or ‘different function’”⁴⁷ and that to those skilled in the art the use of the old elements in combination would have been obvious.

Note that combining known prior art elements is not sufficient to render the claimed invention obvious if the results would not have been predictable to one of ordinary skill in the art.⁴⁸ “When the prior art teaches away from combining certain known elements, discovery of successful means of combining them is more likely to be nonobvious.”⁴⁹

Example 2: The claimed invention in *Ruiz v. AB Chance Co.*⁵⁰ was directed to a system which employs a screw anchor for underpinning existing foundations and a metal bracket to transfer the building load onto the screw anchor. The prior art (Fuller) used screw anchors for underpinning existing structural foundations. Fuller used a concrete haunch to transfer the load of the foundation to the screw anchor. The prior art (Gregory) used a push pier for underpinning existing structural foundations. Gregory taught a method of transferring load using a bracket, specifically, a metal bracket transfers the foundation load to the push pier. The pier is driven into the ground to support the load. Neither reference showed the two elements of the claimed invention—screw anchor and metal bracket—used together. The court found that “artisans knew that a foundation underpinning system requires a means of connecting the foundation to the load-bearing member.”⁵¹

The nature of the problem to be solved—underpinning unstable foundations—as well as the need to connect the member to the foundation to accomplish this goal, would have led one of ordinary skill in the art to choose an appropriate load bearing member and a compatible attachment. Therefore, it would have been obvious to use a metal bracket (as shown in Gregory) in combination with the screw anchor (as

⁴⁷ *Id.* at 60, 163 USPQ at 674.

⁴⁸ *United States v. Adams*, 383 U.S. 39, 51–52, 148 USPQ 479, 483 (1966). In *Adams*, the claimed invention was to a battery with one magnesium electrode and one cuprous chloride electrode that could be stored dry and activated by the addition of plain water or salt water. Although magnesium and cuprous chloride were individually known battery components, the Court concluded that the claimed battery was nonobvious. The Court stated that “[d]espite the fact that each of the elements of the Adams battery was well known in the prior art, to combine them as did Adams required that a person reasonably skilled in the prior art must ignore” the teaching away of the prior art that such batteries were impractical and that water-activated batteries were successful only when combined with electrolytes detrimental to the use of magnesium electrodes. *Id.* at 42–43, 50–52, 148 USPQ at 480, 483.

⁴⁹ *KSR*, 550 U.S. at ___, 82 USPQ2d at 1395.

⁵⁰ 357 F.3d 1270, 69 USPQ2d 1686 (Fed. Cir. 2004).

⁵¹ *Id.* at 1276, 69 USPQ2d at 1691.

⁴³ *Id.* at ___, 82 USPQ2d at 1395; *Sakraida v. AG Pro, Inc.*, 425 U.S. 273, 282, 189 USPQ 449, 453 (1976); *Anderson’s-Black Rock, Inc. v. Pavement Salvage Co.*, 396 U.S. 57, 62–63, 163 USPQ 673, 675 (1969); *Great Atl. & Pac. Tea Co. v. Supermarket Equip. Corp.*, 340 U.S. 147, 152, 87 USPQ 303, 306 (1950).

⁴⁴ *KSR*, 550 U.S. at ___, 82 USPQ2d at 1396.

⁴⁵ 396 U.S. 57, 163 USPQ 673 (1969).

⁴⁶ The prior art used radiant heat for softening the asphalt to make patches, but did not use radiant heat burners to achieve continuous strip paving.

⁴² *KSR*, 550 U.S. at ___, 82 USPQ2d at 1396.

shown in Fuller) to underpin unstable foundations.

B. Simple Substitution of One Known Element for Another To Obtain Predictable Results

To reject a claim based on this rationale, Office personnel must resolve the *Graham* factual inquiries. Office personnel must then articulate the following:

(1) a finding that the prior art contained a device (method, product, etc.) which differed from the claimed device by the substitution of some components (step, element, etc.) with other components;

(2) a finding that the substituted components and their functions were known in the art;

(3) a finding that one of ordinary skill in the art could have substituted one known element for another, and the results of the substitution would have been predictable; and

(4) whatever additional findings based on the *Graham* factual inquiries may be necessary, in view of the facts of the case under consideration, to explain a conclusion of obviousness.

The rationale to support a conclusion that the claim would have been obvious is that the substitution of one known element for another would have yielded predictable results to one of ordinary skill in the art at the time of the invention. If any of these findings cannot be made, then this rationale cannot be used to support a conclusion that the claim would have been obvious to one of ordinary skill in the art.

Example 1: The claimed invention in *In re Fout*⁵² was directed to a method for decaffeinating coffee or tea. The prior art (Pagliaro) method produced a decaffeinated vegetable material and trapped the caffeine in a fatty material (such as oil). The caffeine was then removed from the fatty material by an aqueous extraction process. Applicant (Fout) substituted an evaporative distillation step for the aqueous extraction step. The prior art (Waterman) suspended coffee in oil and then directly distilled the caffeine through the oil. The court found that "[b]ecause both Pagliaro and Waterman teach a method for separating caffeine from oil, it would have been *prima facie* obvious to substitute one method for the other. Express suggestion to substitute one equivalent for another need not be present to render such substitution obvious."⁵³

Example 2: The invention in *In re O'Farrell*⁵⁴ was directed to a method for synthesizing a protein in a transformed bacterial host species by substituting a heterologous gene for a gene native to the host species. Generally speaking, protein synthesis *in vivo* follows the path of DNA to RNA to protein. Although the prior art

Polisky article (authored by two of the three inventors of the application) had explicitly suggested employing the method described for protein synthesis, the inserted heterologous gene exemplified in the article was one that normally did not proceed all the way to the protein production step, but instead terminated with the RNA. A second reference to Bahl had described a general method of inserting chemically synthesized DNA into a plasmid. Thus, it would have been obvious to one of ordinary skill in the art to replace the prior art gene with another gene known to lead to protein production, because one of ordinary skill in the art would have been able to carry out such a substitution, and the results were reasonably predictable.

In response to applicant's argument that there had been significant unpredictability in the field of molecular biology at the time of the invention, the court stated that the level of skill was quite high and that the teachings of Polisky, even taken alone, contained detailed enabling methodology and included the suggestion that the modification would be successful for synthesis of proteins.

This is not a situation where the rejection is a statement that it would have been "obvious to try" without more. Here there was a reasonable expectation of success. "Obviousness does not require absolute predictability of success."⁵⁵

Example 3: The fact pattern in *Ruiz v. AB Chance Co.*⁵⁶ is set forth above in Example 2 in subsection III.A.

The prior art showed differing load-bearing members and differing means of attaching the foundation to the member. Therefore, it would have been obvious to one of ordinary skill in the art to substitute the metal bracket taught in Gregory for Fuller's concrete haunch for the predictable result of transferring the load.

Example 4: The claimed invention in *Ex parte Smith*⁵⁷ was a pocket insert for a bound book made by gluing a base sheet and a pocket sheet of paper together to form a continuous two-ply seam defining a closed pocket. The prior art (Wyant) disclosed at least one pocket formed by folding a single sheet and securing the folder portions along the inside margins using any convenient bonding method. The prior art (Wyant) did not disclose bonding the sheets to form a continuous two-ply seam. The prior art (Dick) disclosed a pocket that is made by stitching or otherwise securing two sheets along three of its four edges to define a closed pocket with an opening along its fourth edge.

In considering the teachings of Wyant and Dick, the Board "found that (1) each of the claimed elements is found within

the scope and content of the prior art; (2) one of ordinary skill in the art could have combined the elements as claimed by methods known at the time the invention was made; and (3) one of ordinary skill in the art would have recognized at the time the invention was made that the capabilities or functions of the combination were predictable." Citing *KSR*, the Board concluded that "[t]he substitution of the continuous, two-ply seam of Dick for the folded seam of Wyant thus is no more than 'the simple substitution of one known element for another or the mere application of a known technique to a piece of prior art ready for improvement.'"

C. Use of Known Technique To Improve Similar Devices (Methods, or Products) in the Same Way

To reject a claim based on this rationale, Office personnel must resolve the *Graham* factual inquiries. Office personnel must then articulate the following:

(1) a finding that the prior art contained a "base" device (method, or product) upon which the claimed invention can be seen as an "improvement";

(2) a finding that the prior art contained a "comparable" device (method, or product) that is not the same as the base device) that was improved in the same way as the claimed invention;

(3) a finding that one of ordinary skill in the art could have applied the known "improvement" technique in the same way to the "base" device (method, or product) and the results would have been predictable to one of ordinary skill in the art; and

(4) whatever additional findings based on the *Graham* factual inquiries may be necessary, in view of the facts of the case under consideration, to explain a conclusion of obviousness.

The rationale to support a conclusion that the claim would have been obvious is that a method of enhancing a particular class of devices (methods, or products) was made part of the ordinary capabilities of one skilled in the art based upon the teaching of such improvement in other situations. One of ordinary skill in the art would have been capable of applying this known method of enhancement to a "base" device (method, or product) in the prior art and the results would have been predictable to one of ordinary skill in the art. The Supreme Court in *KSR* noted that if the actual application of the technique would have been beyond the skill of one of ordinary skill in the art, then using the technique would not have been obvious.⁵⁸ If any of these findings cannot be made, then this

⁵² 675 F.2d 297, 213 USPQ 532 (CCPA 1982).

⁵³ *Id.* at 301, 213 USPQ at 536.

⁵⁴ 853 F.2d 894, 7 USPQ2d 1673 (Fed. Cir. 1988).

⁵⁵ *Id.* at 903, 7 USPQ2d at 1681.

⁵⁶ 357 F.3d 1270, 69 USPQ2d 1686 (Fed. Cir. 2004).

⁵⁷ 83 USPQ2d 1509 (Bd. Pat. App. & Int. 2007).

⁵⁸ *KSR*, 550 U.S. at ___, 82 USPQ2d at 1396.

rationale cannot be used to support a conclusion that the claim would have been obvious to one of ordinary skill in the art.

Example 1: The claimed invention in *In re Nilssen*⁵⁹ was directed to a "means by which the self-oscillating inverter in a power-line-operated inverter-type fluorescent lamp ballast is disabled in case the output current from the inverter exceeds some pre-established threshold level for more than a very brief period."⁶⁰ That is, the current output was monitored, and if the current output exceeded some threshold for a specified short time, an actuation signal was sent and the inverter was disabled to protect it from damage.

The prior art (a USSR certificate) described a device for protecting an inverter circuit in an undisclosed manner via a control means. The device indicated the high-load condition by way of the control means, but did not indicate the specific manner of overload protection. The prior art (Kammiller) disclosed disabling the inverter in the event of a high-load current condition in order to protect the inverter circuit. That is, the overload protection was achieved by disabling the inverter by means of a cutoff switch.

The court found "it would have been obvious to one of ordinary skill in the art to use the threshold signal produced in the USSR device to actuate a cutoff switch to render the inverter inoperative as taught by Kammiller."⁶¹ That is, using the known technique of a cutoff switch for protecting a circuit to provide the protection desired in the inverter circuit of the USSR document would have been obvious to one of ordinary skill.

Example 2: The fact pattern in *Ruiz v. AB Chance Co.*⁶² is set forth above in Example 2 in subsection III.A.

The nature of the problem to be solved may lead inventors to look at references relating to possible solutions to that problem.⁶³ Therefore, it would have been obvious to use a metal bracket (as shown in Gregory) with the screw anchor (as shown in Fuller) to underpin unstable foundations.

D. Applying a Known Technique to a Known Device (Method, or Product) Ready for Improvement To Yield Predictable Results

To reject a claim based on this rationale, Office personnel must resolve the *Graham* factual inquiries. Office

personnel must then articulate the following:

- (1) a finding that the prior art contained a "base" device (method, or product) upon which the claimed invention can be seen as an "improvement;"
- (2) a finding that the prior art contained a known technique that is applicable to the base device (method, or product);
- (3) a finding that one of ordinary skill in the art would have recognized that applying the known technique would have yielded predictable results and resulted in an improved system; and
- (4) whatever additional findings based on the *Graham* factual inquiries may be necessary, in view of the facts of the case under consideration, to explain a conclusion of obviousness.

The rationale to support a conclusion that the claim would have been obvious is that a particular known technique was recognized as part of the ordinary capabilities of one skilled in the art. One of ordinary skill in the art would have been capable of applying this known technique to a known device (method, or product) that was ready for improvement and the results would have been predictable to one of ordinary skill in the art. If any of these findings cannot be made, then this rationale cannot be used to support a conclusion that the claim would have been obvious to one of ordinary skill in the art.

Example 1: The claimed invention in *Dann v. Johnston*⁶⁴ was directed towards a system (i.e., computer) for automatic record keeping of bank checks and deposits. In this system, a customer would put a numerical category code on each check or deposit slip. The check processing system would record these on the check in magnetic ink, just as it did for amount and account information. With this system in place, the bank can provide statements to customers that are broken down to give subtotals for each category. The claimed system also allowed the bank to print reports according to a style requested by the customer. As characterized by the Court, "[u]nder respondent's invention, then, a general purpose computer is programmed to provide bank customers with an individualized and categorized breakdown of their transactions during the period in question."⁶⁵

Base System—The nature of the current use of data processing equipment and computer software in the banking industry was that banks routinely did much of the record keeping automatically. In routine check processing, the system read any magnetic ink characters identifying the account and routing. The system also read the amount of the check and then printed that value in a designated area of the check. The check was then sent

through a further data processing step which used the magnetic ink information to generate the appropriate records for transactions and for posting to the appropriate accounts. These systems included generating periodic statements for each account, such as the monthly statement sent to checking account customers.

Improved System—The claimed invention supplemented this system by recording a category code which can then be utilized to track expenditures by category. Again, the category code will be a number recorded on the check (or deposit slip) which will be read, converted into a magnetic ink imprint, and then processed in the data system to include the category code. This enabled reporting of data by category as opposed to only allowing reporting by account number.

Known Technique—This is an application of a technique from the prior art—the use of account numbers (generally used to track an individual's total transactions) to solve the problem of how to track categories of expenditures to more finely account for a budget. That is, account numbers (identifying data capable of processing in the automatic data processing system) were used to distinguish between different customers. Furthermore, banks have long segregated debits attributable to service charges within any given separate account and have rendered their customers subtotals for those charges. Previously, one would have needed to set up separate accounts for each category and thus receive separate reports. Supplementing the account information with additional digits (the category codes) solved the problem by effectively creating a single account that can be treated as distinct accounts for tracking and reporting services. That is, the category code merely allowed what might previously have been separate accounts to be handled as a single account, but with a number of sub-accounts indicated in the report.

The basic technique of putting indicia on data which then enabled standard sorting, searching, and reporting would have yielded no more than the predictable outcome which one of ordinary skill would have expected to achieve with this common tool of the trade and was therefore an obvious expedient. The Court held that "[t]he gap between the prior art and respondent's system is simply not so great as to render the system nonobvious to one reasonably skilled in the art."⁶⁶

⁵⁹ 851 F.2d 1401, 7 USPQ2d 1500 (Fed. Cir. 1988).

⁶⁰ *Id.* at 1402, 7 USPQ2d at 1501.

⁶¹ *Id.* at 1403, 7 USPQ2d at 1502.

⁶² 357 F.3d 1270, 69 USPQ2d 1686 (Fed. Cir. 2004).

⁶³ *Id.* at 1277, 69 USPQ2d at 1691.

⁶⁴ 425 U.S. 219, 189 USPQ 257 (1976).

⁶⁵ *Id.* at 222, 189 USPQ at 259.

⁶⁶ *Id.* at 230, 189 USPQ at 261.

Example 2: The fact pattern in *In re Nilssen*⁶⁷ is set forth above in Example 1 in subsection III.C.

The court found "it would have been obvious to one of ordinary skill in the art to use the threshold signal produced in the USSR device to actuate a cutoff switch to render the inverter inoperative as taught by Kammiller."⁶⁸ The known technique of using a cutoff switch would have predictably resulted in protecting the inverter circuit. Therefore, it would have been within the skill of the ordinary artisan to use a cutoff switch in response to the actuation signal to protect the inverter.

E. "Obvious To Try"—Choosing From a Finite Number of Identified, Predictable Solutions, With a Reasonable Expectation of Success

To reject a claim based on this rationale, Office personnel must resolve the *Graham* factual inquiries. Office personnel must then articulate the following:

- (1) a finding that at the time of the invention, there had been a recognized problem or need in the art, which may include a design need or market pressure to solve a problem;
- (2) a finding that there had been a finite number of identified, predictable potential solutions to the recognized need or problem;
- (3) a finding that one of ordinary skill in the art could have pursued the known potential solutions with a reasonable expectation of success; and
- (4) whatever additional findings based on the *Graham* factual inquiries may be necessary, in view of the facts of the case under consideration, to explain a conclusion of obviousness.

The rationale to support a conclusion that the claim would have been obvious is that "a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense. In that instance the fact that a combination was obvious to try might show that it was obvious under § 103."⁶⁹ If any of these findings cannot be made, then this rationale cannot be used to support a conclusion that the claim would have been obvious to one of ordinary skill in the art.

Example 1: The claimed invention in *Pfizer, Inc. v. Apotex, Inc.*⁷⁰ was directed to the amlodipine besylate drug product, which is commercially sold in tablet form in the United States under the trademark Norvasc®.

At the time of the invention, amlodipine was known as was the use of besylate anions. Amlodipine was known to have the same therapeutic properties as were being claimed for the amlodipine besylate but Pfizer discovered that the besylate form had better manufacturing properties (e.g., reduced "stickiness").

Pfizer argued that the results of forming amlodipine besylate would have been unpredictable, and therefore were nonobvious. The court rejected the notion that unpredictability could be equated with nonobviousness here, because there were only a finite number (53) of pharmaceutically acceptable salts to be tested for improved properties.

The court found that one of ordinary skill in the art having problems with the machinability of amlodipine would have looked to forming a salt of the compound and would have been able to narrow the group of potential salt-formers to a group of 53 anions known to form pharmaceutically acceptable salts, which would be an acceptable number to form "a reasonable expectation of success."

Example 2: The claimed invention in *Alza Corp. v. Mylan Laboratories, Inc.*⁷¹ was drawn to sustained-release formulations of the drug oxybutynin in which the drug is released at a specified rate over a 24-hour period. Oxybutynin was known to be highly water-soluble, and the specification had pointed out that development of sustained-release formulations of such drugs presented particular problems.

A prior art patent to Morella had taught sustained-release compositions of highly water-soluble drugs, as exemplified by a sustained-release formulation of morphine. Morella had also identified oxybutynin as belonging to the class of highly water-soluble drugs. The Baichwal prior art patent had taught a sustained-release formulation of oxybutynin that had a different release rate than the claimed invention. Finally, the Wong prior art patent had taught a generally applicable method for delivery of drugs over a 24-hour period. Although Wong mentioned applicability of the disclosed method to several categories of drugs to which oxybutynin belonged, Wong did not specifically mention its applicability to oxybutynin.

The court found that because the absorption properties of oxybutynin would have been reasonably predictable at the time of the invention, there would have been a reasonable expectation of successful development of a sustained-release formulation of oxybutynin as claimed. The prior art, as evidenced by the specification, had recognized the obstacles to be overcome in

development of sustained-release formulations of highly water-soluble drugs, and had suggested a finite number of ways to overcome these obstacles. The claims were obvious because it would have been obvious to try the known methods for formulating sustained-release compositions, with a reasonable expectation of success. The court was not swayed by arguments of a lack of absolute predictability.

Example 3: The claimed invention in *Ex parte Kubin*⁷² was an isolated nucleic acid molecule. The claim stated that the nucleic acid encoded a particular polypeptide. The encoded polypeptide was identified in the claim by its partially specified sequence, and by its ability to bind to a specified protein.

A prior art patent to Valiante taught the polypeptide encoded by the claimed nucleic acid, but did not disclose either the sequence of the polypeptide, or the claimed isolated nucleic acid molecule. However, Valiante did disclose that by employing conventional methods, such as those disclosed by a prior art laboratory manual by Sambrook, the sequence of the polypeptide could be determined, and the nucleic acid molecule could be isolated. In view of Valiante's disclosure of the polypeptide, and of routine prior art methods for sequencing the polypeptide and isolating the nucleic acid molecule, the Board found that a person of ordinary skill in the art would have had a reasonable expectation that a nucleic acid molecule within the claimed scope could have been successfully obtained.

Relying on *In re Deuel*, Appellant argued that it was improper for the Office to use the polypeptide of the Valiante patent together with the methods described in Sambrook to reject a claim drawn to a specific nucleic acid molecule without providing a reference showing or suggesting a structurally similar nucleic acid molecule. Citing *KSR*, the Board stated that "when there is motivation to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to anticipated success, it is likely the product not of innovation but of ordinary skill and common sense." The Board noted that the problem facing those in the art was to isolate a specific nucleic acid, and there were a limited number of methods available to do so. The Board concluded that the skilled artisan would have had reason to try these methods with the reasonable expectation that at least one would be successful. Thus, isolating the

⁶⁷ 851 F.2d 1401, 7 USPQ2d 1500 (Fed. Cir. 1988).

⁶⁸ *Id.* at 1403, 7 USPQ2d at 1502.

⁶⁹ *KSR*, 550 U.S. at ___, 82 USPQ2d at 1397.

⁷⁰ 480 F.3d 1348, 82 USPQ2d 1321 (Fed. Cir. 2007).

⁷¹ 464 F.3d 1286, 80 USPQ2d 1001 (Fed. Cir. 2006).

⁷² 83 USPQ2d 1410 (Bd. Pat. App. & Int. 2007).

specific nucleic acid molecule claimed was "the product not of innovation but of ordinary skill and common sense."

F. Known Work in One Field of Endeavor May Prompt Variations of it for Use in Either the Same Field or a Different One Based on Design Incentives or Other Market Forces if The Variations Would Have Been Predictable to One of Ordinary Skill in the Art

To reject a claim based on this rationale, Office personnel must resolve the *Graham* factual inquiries. Office personnel must then articulate the following:

(1) a finding that the scope and content of the prior art, whether in the same field of endeavor as that of the applicant's invention or a different field of endeavor, included a similar or analogous device (method, or product);

(2) a finding that there were design incentives or market forces which would have prompted adaptation of the known device (method, or product);

(3) a finding that the differences between the claimed invention and the prior art were encompassed in known variations or in a principle known in the prior art;

(4) a finding that one of ordinary skill in the art, in view of the identified design incentives or other market forces, could have implemented the claimed variation of the prior art, and the claimed variation would have been predictable to one of ordinary skill in the art; and

(5) whatever additional findings based on the *Graham* factual inquiries may be necessary, in view of the facts of the case under consideration, to explain a conclusion of obviousness.

The rationale to support a conclusion that the claimed invention would have been obvious is that design incentives or other market forces could have prompted one of ordinary skill in the art to vary the prior art in a predictable manner to result in the claimed invention. If any of these findings cannot be made, then this rationale cannot be used to support a conclusion that the claim would have been obvious to one of ordinary skill in the art.

Example 1: The fact pattern in *Dann v. Johnston*⁷³ is set forth above in Example 1 in subsection III.D.

The court found that the problem addressed by applicant—the need to give more detailed breakdown by a category of transactions—was closely analogous to the task of keeping track of the transaction files of individual business units.⁷⁴ Thus, an artisan in the data processing area would have recognized the similar class of problem

and the known solutions of the prior art and it would have been well within the ordinary skill level to implement the system in the different environment. The court held that "[t]he gap between the prior art and respondent's system is simply not so great as to render the system nonobvious to one reasonably skilled in the art."⁷⁵

Example 2: The claimed invention in *Leapfrog Enterprises, Inc. v. Fisher-Price, Inc.*⁷⁶ was directed to a learning device to help young children read phonetically.

The claim read as follows:
An interactive learning device, comprising:

a housing including a plurality of switches;
a sound production device in communication with the switches and including a processor and a memory;
at least one depiction of a sequence of letters, each letter being associable with a switch;
and

a reader configured to communicate the identity of the depiction to the processor, wherein selection of a depicted letter activates an associated switch to communicate with the processor, causing the sound production device to generate a signal corresponding to a sound associated with the selected letter, the sound being determined by a position of the letter in the sequence of letter.

The court concluded that the claimed invention would have been obvious in view of the combination of two pieces of prior art, (1) Bevan (which showed an electro-mechanical toy for phonetic learning), (2) the Super Speak & Read device (SSR) (an electronic reading toy), and the knowledge of one of ordinary skill in the art.

The court made clear that there was no technological advance beyond the skill shown in the SSR device. The court stated that "one of ordinary skill in the art of children's learning toys would have found it obvious to combine the Bevan device with the SSR to update it using modern electronic components in order to gain the commonly understood benefits of such adaptation, such as decreased size, increased reliability, simplified operation, and reduced cost. While the SSR only permits generation of a sound corresponding to the first letter of a word, it does so using electronic means. The combination is thus the adaptation of an old idea or invention (Bevan) using newer technology that is commonly available and understood in the art (the SSR)."

The court found that the claimed invention was but a variation on already known children's toys. This variation

presented no nonobvious advance over other toys. The court made clear that there was no technological advance beyond the skill shown in the SSR device. The court found that "[a]ccommodating a prior art mechanical device that accomplishes that goal to modern electronics would have been reasonably obvious to one of ordinary skill in designing children's learning devices. Applying modern electronics to older mechanical devices has been commonplace in recent years."

Example 3: The claimed invention in *KSR International Co. v. Teleflex Inc.*⁷⁷ was an adjustable pedal assembly with a fixed pivot point and an electronic pedal-position sensor attached to the assembly support. The fixed pivot point meant that the pivot was not changed as the pedal was adjusted. The placement of the sensor on the assembly support kept the sensor fixed while the pedal was adjusted.

Conventional gas pedals operated by a mechanical link which adjusted the throttle based on the travel of the pedal from a set position. The throttle controlled the combustion process and the available power generated by the engine. Newer cars used computer controlled throttles in which a sensor detected the motion of the pedal and sent signals to the engine to adjust the throttle accordingly. At the time of the invention, the marketplace provided a strong incentive to convert mechanical pedals to electronic pedals, and the prior art taught a number of methods for doing so. The prior art (Asano) taught an adjustable pedal with a fixed pivot point with mechanical throttle control. The prior art ('936 patent to Byler) taught an electronic pedal sensor which was placed on a pivot point in the pedal assembly and that it was preferable to detect the pedal's position in the pedal mechanism rather than in the engine. The prior art (Smith) taught that to prevent the wires connecting the sensor to the computer from chafing and wearing out, the sensor should be put on a fixed part of the pedal assembly rather than in or on the pedal's footpad. The prior art (Rixon) taught an adjustable pedal assembly (sensor in the footpad) with an electronic sensor for throttle control. There was no prior art electronic throttle control that was combined with a pedal assembly which kept the pivot point fixed when adjusting the pedal.

The Court stated that "[t]he proper question to have asked was whether a pedal designer of ordinary skill, facing the wide range of needs created by developments in the field of endeavor, would have seen a benefit to upgrading

⁷³ 425 U.S. 219, 189 USPQ 257 (1976).

⁷⁴ *Id.* at 229, 189 USPQ at 261.

⁷⁵ *Id.* at 230, 189 USPQ at 261.

⁷⁶ 485 F.3d 1157, 82 USPQ2d 1687 (Fed. Cir. 2007).

⁷⁷ 550 U.S. ___, 82 USPQ2d 1385 (2007).

Asano with a sensor.”⁷⁸ The Court found that technological developments in the automotive design would have prompted a designer to upgrade Asano with an electronic sensor. The next question was where to attach the sensor. Based on the prior art, a designer would have known to place the sensor on a nonmoving part of the pedal structure and the most obvious nonmoving point on the structure from which a sensor can easily detect the pedal’s position was a pivot point. The Court concluded that it would have been obvious to upgrade Asano’s fixed pivot point adjustable pedal by replacing the mechanical assembly for throttle control with an electronic throttle control and to mount the electronic sensor on the pedal support structure.

Example 4: The claimed invention in *Ex parte Catan*⁷⁹ was a consumer electronics device using bioauthentication to authorize sub-users of an authorized credit account to place orders over a communication network up to a pre-set maximum sub-credit limit.

The prior art (Nakano) disclosed a consumer electronics device like the claimed invention, except that security was provided by a password authentication device rather than a bioauthentication device. The prior art (Harada) disclosed that the use of a bioauthentication device (fingerprint sensor) on a consumer electronics device (remote control) to provide bioauthentication information (fingerprint) was known in the prior art at the time of the invention. The prior art (Dethloff) also disclosed that it was known in the art at the time of the invention to substitute bioauthentication for PIN authentication to enable a user to access credit via a consumer electronics device.

The Board found that the prior art “shows that one of ordinary skill in the consumer electronic device art at the time of the invention would have been familiar with using bioauthentication information interchangeably with or in lieu of PINs to authenticate users.” The Board concluded that one of ordinary skill in the art of consumer electronic devices would have found it obvious to update the prior art password device with the modern bioauthentication component and thereby gain, predictably, the commonly understood benefits of such adaptation, that is, a secure and reliable authentication procedure.

G. Some Teaching, Suggestion, or Motivation in the Prior Art That Would Have Led One of Ordinary Skill To Modify the Prior Art Reference or To Combine Prior Art Reference Teachings To Arrive at the Claimed Invention

To reject a claim based on this rationale, Office personnel must resolve the *Graham* factual inquiries. Office personnel must then articulate the following:

(1) a finding that there was some teaching, suggestion, or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings;

(2) a finding that there was reasonable expectation of success; and

(3) whatever additional findings based on the *Graham* factual inquiries may be necessary, in view of the facts of the case under consideration, to explain a conclusion of obviousness.

The rationale to support a conclusion that the claim would have been obvious is that “a person of ordinary skill in the art would have been motivated to combine the prior art to achieve the claimed invention and that there would have been a reasonable expectation of success.”⁸⁰ If any of these findings cannot be made, then this rationale cannot be used to support a conclusion that the claim would have been obvious to one of ordinary skill in the art.

The courts have made clear that the teaching, suggestion, or motivation test is flexible and an explicit suggestion to combine the prior art is not necessary. The motivation to combine may be implicit and may be found in the knowledge of one of ordinary skill in the art, or, in some cases, from the nature of the problem to be solved.⁸¹ “[A]n implicit motivation to combine exists not only when a suggestion may be gleaned from the prior art as a whole, but when the ‘improvement’ is technology-independent and the combination of references results in a product or process that is more desirable, for example because it is stronger, cheaper, cleaner, faster, lighter, smaller, more durable, or more efficient. Because the desire to enhance commercial opportunities by improving a product or process is universal—and even common-sensical—we have held that there exists in these situations a motivation to combine prior art references even absent any hint of suggestion in the references themselves. In such situations, the proper question is whether the ordinary artisan possesses knowledge and skills rendering him capable of combining the prior art references.”⁸²

IV. Applicant’s Reply

Once Office personnel have established the *Graham* factual findings and concluded that the claimed invention would have been obvious, the burden then shifts to the applicant to (1)

show that the Office erred in these findings, or (2) provide other evidence to show that the claimed subject matter would have been nonobvious. 37 CFR 1.111(b) requires applicant to distinctly and specifically point out the supposed errors in the Office’s action and reply to every ground of objection and rejection in the Office action. The reply must present arguments pointing out the specific distinction believed to render the claims patentable over any applied references.

If an applicant disagrees with any factual findings by the Office, an effective traverse of a rejection based wholly or partially on such findings must include a reasoned statement explaining why the applicant believes the Office has erred substantively as to the factual findings. A mere statement or argument that the Office has not established a *prima facie* case of obviousness or that the Office’s reliance on common knowledge is unsupported by documentary evidence will not be considered substantively adequate to rebut the rejection or an effective traverse of the rejection under 37 CFR 1.111(b). Office personnel addressing this situation may repeat the rejection made in the prior Office action and make the next Office action final. See MPEP § 706.07(a).

V. Consideration of Applicant’s Rebuttal Evidence

Office personnel should consider all rebuttal evidence that is timely presented by the applicants when reevaluating any obviousness determination. Rebuttal evidence may include evidence of “secondary considerations,” such as “commercial success, long felt but unsolved needs, [and] failure of others”⁸³, and may also include evidence of unexpected results. As set forth in section III. above, Office personnel must articulate findings of fact that support the rationale relied upon in an obviousness rejection. As a result, applicants are likely to submit evidence to rebut the fact finding made by Office personnel. For example, in the case of a claim to a combination, applicants may submit evidence or argument to demonstrate that:

(1) one of ordinary skill in the art could not have combined the claimed elements by known methods (e.g., due to technological difficulties);

(2) the elements in combination do not merely perform the function that each element performs separately; or

(3) the results of the claimed combination were unexpected.

⁸⁰ *DyStar Textilfarben GmbH & Co. Deutschland KG v. C.H. Patrick Co.*, 464 F.3d 1356, 1360, 80 USPQ2d 1641, 1645 (Fed. Cir. 2006).

⁸¹ *Id.* at 1366, 80 USPQ2d at 1649.

⁸² *Id.* at 1368, 80 USPQ2d at 1651.

⁷⁸ *Id.* at __, 82 USPQ2d at 1399.

⁷⁹ 83 USPQ2d 1569 (Bd. Pat. App. & Int.

⁸³ *Graham v. John Deere Co.*, 383 U.S. at 17, 148 USPQ at 467.

Once the applicant has presented rebuttal evidence, Office personnel should reconsider any initial obviousness determination in view of the entire record.⁸⁴ All the rejections of record and proposed rejections and their bases should be reviewed to confirm their continued viability. The Office action should clearly communicate the Office's findings and conclusions, articulating how the conclusions are supported by the findings. The procedures set forth in MPEP § 706.07(a) are to be followed in determining whether an action may be made final.

See MPEP § 2145 concerning consideration of applicant's rebuttal evidence. See also MPEP § 716 to

⁸⁴ See, e.g., *In re Piasecki*, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984); *In re Eli Lilly & Co.*, 90 F.2d 943, 945, 14 USPQ2d 1741, 1743 (Fed. Cir. 1990).

§ 716.10 regarding affidavits or declarations filed under 37 CFR 1.132 for purposes of traversing grounds of rejection.

Dated: October 3, 2007.

Jon W. Dudas,

Under Secretary of Commerce for Intellectual Property and Director of the United States Patent and Trademark Office.

[FR Doc. E7-19973 Filed 10-9-07; 8:45 am]

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DEPARTMENT OF DEFENSE

Office of the Secretary

[Transmittal Nos. 08-09]

36(b)(1) Arms Sales Notification

AGENCY: Department of Defense, Defense Security Cooperation Agency.

ACTION: Notice.

SUMMARY: The Department of Defense is publishing the unclassified text of a section 36(b)(1) arms sales notification. This is published to fulfill the requirements of section 155 of Public Law 104-164 dated 21 July 1996.

FOR FURTHER INFORMATION CONTACT: Ms. B. English, DSCA/DBO/CFM, (703) 601-3740.

The following is a copy of a letter to the Speaker of the House of Representatives, Transmittals 08-09 with attached transmittal, policy justification, and Sensitivity of Technology.

Dated: October 3, 2007.

L.M. Bynum,

*OSD Federal Register Liaison Officer,
Department of Defense.*

BILLING CODE 5001-06-M